

THE CLAIMS:

Please amend Claims 1, 4, and 25-30, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

Claim 1 (currently amended): An image pickup apparatus comprising:

image pickup means;

encoding means for encoding a moving ~~picture~~ image signal output from the image pickup means using an ~~intraframe encoding~~ intra-encoding method and an ~~interframe encoding~~ inter-encoding method to generate an encoded image signal, ~~the encoded image signal including therein a plurality of picture groups each constituted by an image signal of n frames (n being an integer equal to or larger than two) including intraframe-encoded pictures obtained through intraframe encoding processing and interframe-encoded pictures obtained through interframe encoding processing~~ including an intra-encoded picture encoded by the intra-encoding method and an inter-encoded picture encoded by the inter-encoding method,
the encoding means extracting an image signal of a picture for every n pictures (n being an integer greater than or equal to two) from the moving image signal and encoding the extracted image signal by the intra-encoding method, thereby generating the intra-encoded picture for every n pictures, and

the encoding means being arranged to encode the image signals of a plurality of pictures included between the adjacent pictures each extracted for every n pictures by one of the intra-encoding method and the inter-encoding method;

recording means for recording the encoded image signal generated by the

encoding means on a recording medium;

transmission means for transmitting the encoded image signal generated by the encoding means to an external apparatus while maintaining an encoded state of the encoded image signal; and

control means for controlling the encoding means and the recording means in accordance with an instruction to start a recording operation, issued during transmission of the encoded image signal by the transmission means, ~~so as to start to record the encoded image signal from a frame thereof corresponding to the instruction to start the recording operation, and to change a number of intraframe-encoded~~ the intra-encoded ~~pictures included in one picture group without changing a number of frames included in one picture group when~~ interposed between the adjacent pictures each extracted for every n pictures while generating the intra-encoded picture for every n pictures if the instruction to start the recording operation is issued, ~~so that a number of intraframe-encoded pictures included in each picture group generated after issuance of the instruction to start the recording operation is smaller than a number of intraframe-encoded pictures included in each picture group generated before the issuance of the instruction to start the recording operation.~~

Claims 2-3 (cancelled).

Claim 4 (currently amended): An image pickup apparatus according to claim 1, wherein the control means further controls the encoding means ~~to insert one intraframe-encoded frame into each picture group after the issuance of the instruction to start the recording operation, and to insert a plurality of intraframe-encoded frames into each picture group before the issuance of the~~

~~instruction to start the recording operation~~ reduce the number of the intra-encoded pictures
interposed between the adjacent pictures each extracted for every n pictures while generating the
intra-encoded picture for every n pictures if the instruction to start the recording operation is
issued.

Claims 5-24 (cancelled).

Claim 25 (currently amended): An image pickup apparatus comprising:

image pickup means;

encoding means for encoding a moving ~~picture~~ image signal output from the
image pickup means using an ~~intraframe encoding~~ intra-encoding method and an ~~interframe~~
~~encoding~~ inter-encoding method to generate an encoded image signal; ~~the encoded image signal~~
including therein a plurality of picture groups each constituted by an image signal of n frames (n
being an integer equal to or larger than two) including ~~intraframe-encoded pictures obtained~~
~~through intraframe encoding processing and interframe-encoded pictures obtained through~~
~~interframe encoding processing~~ including an intra-encoded picture encoded by the intra-encoding
method and an inter-encoded picture encoded by the inter-encoding method, the encoding means
extracting an image signal of a picture for every n pictures (n being an integer greater than or
equal to two) from the moving image signal and encoding the extracted image signal by the
intra-encoding method, thereby generating the intra-encoded picture for every n pictures, and
the encoding means being arranged to encode the image signals of a plurality of
pictures included between the adjacent pictures each extracted for every n pictures by one of the
intra-encoding method and the inter-encoding method;

recording means for recording the encoded image signal generated by the encoding means on a recording medium;

transmission means for transmitting the encoded image signal generated by the encoding means to an external apparatus while maintaining an encoded state of the encoded image signal; and

control means for controlling the encoding means and the recording means in accordance with an instruction to start a recording operation, issued during transmission of the encoded image signal by the transmission means, so as to ~~start to record the encoded image signal from a frame thereof corresponding to the instruction to start the recording operation, and to change a rate of intraframe-encoded~~ the intra-encoded pictures included in one picture group without changing a rate of frames included in one picture group when interposed between the adjacent pictures each extracted for every n pictures while generating the intra-encoded picture for every n pictures if the instruction to start the recording operation is issued, ~~so that a rate of intraframe-encoded pictures included in each picture group generated after issuance of the instruction to start the recording operation is lower than a rate of intraframe-encoded pictures included in each picture group generated before the issuance of the instruction to start the recording operation.~~

Claim 26 (currently amended): An image pickup apparatus according to claim 25, wherein the control means further controls the encoding means to ~~insert one intraframe-encoded frame into each picture group after the issuance of the instruction to start the recording operation, and to insert a plurality of intraframe-encoded frames into each picture group before the issuance of the instruction to start the recording operation~~ reduce the rate of the intra-encoded pictures

interposed between the adjacent pictures each extracted for every n pictures while generating the intra-encoded picture for every n pictures if the instruction to start the recording operation is issued.

Claim 27 (currently amended): An image pickup method comprising steps of:

generating a moving ~~picture~~ image signal;

encoding the moving ~~picture~~ image signal using an ~~intraframe encoding~~ intra-encoding method and an ~~interframe encoding~~ inter-encoding method to generate an encoded image signal, ~~the encoded image signal including therein a plurality of picture groups each constituted by an image signal of n frames (n being an integer equal to or larger than two) including intraframe-encoded pictures obtained through intraframe encoding processing and interframe-encoded pictures obtained through interframe encoding processing~~ including an intra-encoded picture encoded by the intra-encoding method and an inter-encoded picture encoded by the inter-encoding method.

the encoding step including extracting an image signal of a picture for every n pictures (n being an integer greater than or equal to two) from the moving image signal and encoding the extracted image signal by the intra-encoding method, thereby generating the intra-encoded picture for every n pictures, and

the encoding step being arranged to encode the image signals of a plurality of pictures included between the adjacent pictures each extracted for every n pictures by one of the intra-encoding method and the inter-encoding method;

recording the encoded image signal on a recording medium;

transmitting the encoded image signal to an external apparatus while maintaining

an encoded state of the encoded image signal; and

controlling the encoding step and the recording step in accordance with an instruction to start a recording operation, issued during transmission of the encoded image signal in the transmission step, so as to ~~start to record the encoded image signal from a frame thereof corresponding to the instruction to start the recording operation, and to change a number of intraframe-encoded intra-encoded pictures included in one picture group without changing a number of frames included in one picture group interposed between the adjacent pictures each extracted for every n pictures while generating the intra-encoded picture for every n pictures if~~ when the instruction to start the recording operation is issued, ~~so that a number of intraframe-encoded pictures included in each picture group generated after issuance of the instruction to start the recording operation is smaller than a number of intraframe-encoded pictures included in each picture group generated before the issuance of the instruction to start the recording operation.~~

Claim 28 (currently amended): A method according to claim 27, wherein the control step includes controlling the encoding step to ~~insert one intraframe-encoded frame into each picture group after the issuance of the instruction to start the recording operation, and to insert a plurality of intraframe-encoded frames into each picture group before the issuance of the instruction to start the recording operation~~ reduce the number of the intra-encoded pictures interposed between the adjacent pictures each extracted for every n pictures while generating the intra-encoded picture for every n pictures if the instruction to start the recording operation is issued.

Claim 29 (currently amended): An image pickup method comprising steps of:

generating a moving ~~picture~~ image signal;

encoding the moving ~~picture~~ image signal using an ~~intraframe encoding~~ intra-
encoded method and an ~~interframe encoding~~ inter-encoded method to generate an encoded image
signal, ~~the encoded image signal including therein a plurality of picture groups each constituted
by an image signal of n frames (n being an integer equal to or larger than two) including
intraframe-encoded pictures obtained through intraframe encoding processing and
interframe-encoded pictures obtained through interframe encoding processing~~ including an
intra-encoded picture encoded by the intra-encoding method and an inter-encoded picture
encoded by the inter-encoding method.

the encoding means extracting an image signal of a picture for every n pictures (n
being an integer greater than or equal to two) from the moving image signal and encoding the
extracted image signal by the intra-encoding method, thereby generating the intra-encoded
picture for every n pictures, and

the encoding means being arranged to encode the image signals of a plurality of
pictures included between the adjacent pictures each extracted for every n pictures by one of the
intra-encoding method and the inter-encoding method;

recording the encoded image signal on a recording medium;

transmitting the encoded image signal to an external apparatus while maintaining
an encoded state of the encoded image signal; and

controlling the encoding step and the recording step in accordance with an
instruction to start a recording operation, issued during transmission of the encoded image signal
in the transmission step, so as to ~~start to record the encoded image signal from a frame thereof
corresponding to the instruction to start the recording operation, and to change a rate of~~

~~intraframe-encoded~~ intra-encoded pictures ~~included~~ interposed between the adjacent pictures
each extracted for every n pictures while generating the intra-encoded picture for every n pictures
if in a picture group without changing a rate of frames included in a picture group when the
instruction to start the recording operation is issued, ~~so that a rate of intraframe-encoded pictures~~
~~included in each picture group generated after issuance of the instruction to start the recording~~
~~operation is lower than a rate of intraframe-encoded pictures included in each picture group~~
~~generated before the issuance of the instruction to start the recording operation.~~

Claim 30 (currently amended): A method according to claim 29, wherein the control step
includes controlling the encoding step to ~~insert one intraframe-encoded frame into each picture~~
~~group after the issuance of the instruction to start the recording operation, and to insert a plurality~~
~~of intraframe-encoded frames into each picture group before the issuance of the instruction to~~
~~start the recording operation~~ reduce the rate of the intra-encoded pictures interposed between the
adjacent pictures each extracted for every n pictures while generating the intra-encoded picture
for every n pictures if the instruction to start the recording operation is issued.